rain or snow. They tend to work pretty well especially when
new. They also add about 10 more degrees of warmth to a bag
by adding extra protection from the wind and some more
trapped air space. If you are planning to always sleep in some
type of shelter, they aren't all that necessary, but they are nice
for sleeping under the stars.

Finally, if you think you are a warm sleeper try out a lighter
bag, but if you hate sleeping cold then get a warmer bag with
more loft. There are few things worse than spending a long
winters night out shivering in your bag.

---

**Skiing in the Backcountry**

Why bother skiing in the backcountry? Is it really worth the effort when you could be riding the lifts for max vertical? I certainly think it is. There's a certain satisfaction to making your own way to the top of a slope and then cutting the first tracks. Knowing that they will still be there when you get back to the top. There is also the quiet and solitude of the backcountry that you won't find at a ski area. What also enjoy about the backcountry is breaking my own trail, sweating and toiling up the hills. This is the ultimate aerobic workout and the reward of a great downhill run couldn't be better. Plus it's just plain cool to be out there finding your own way, looking at the animal tracks and no worrying about getting creamed by a snowboarder—hopefully.

Skiing in the backcountry will present plenty of new challenges to the area skier. Not the least of which is the snow itself. Unlike the snow at an area that has a solid base created by diesel-fume-spewing Snowcats and thousands of other skiers, the snow in the backcountry can be variable. This means it comes in many different consistencies (light powder and wind sable to mashed potatoes) and will change from aspect to aspect, day to day. For this reason it can be easier for the novice skier to learn how to make some turns at an area before heading out to the great untracked regions of the world. There are many books out there on how to tele turn and all the ski magazines run a least one article a season on freehill skiing. But the only real way to learn how to turn is to actually go ski! A friend or paid professional can help speed up the process by giving lessons in the fine arts of getting those boards to turn. A warning, however: Friends are often not the best at teaching these fine arts with an unattached view toward your learning, and we would hate to see any broken relationships.

**Off Piste**

In the backcountry there is no guarantee you will find perfect snow. Learning to ski (and fall) in all sorts of different conditions,
such as a breakable crust, bulletproof wind slab or mush is part of the challenge of skiing away from the lifts. There are also those perfect snow days with magic "hero snow" where you can do no wrong. But suddenly things change and we are humbled yet again. This is what keeps us on our toes and also what makes skiing in the backcountry so enjoyable. So the next step for those with at least a semblance of a turn is to get out there on the unpacked or, to use the French term "off piste," snow. I will limit myself to skiing in powdery conditions. Techniques for skiing in the crud and crusty snow conditions are better left to books like Paul Parker's Free Hill Skiing, which emphasize all the different ski techniques. Spring conditions or corn snow will feel similar to groomed slopes.

Have you ever heard the phrase "bottomless powder"? Sometimes that's how it feels when you're out here getting ready to do your first turn. The most common mistake I see is when people who are skiing off piste the first time are pushing too much weight on the front ski. This usually leads to the ski diving into the snow pack and the skier doing a beautiful face plant if not a full on forward roll (which can be graded in much the same way as a diving competition).

When skiing on hard pack it's normal to weight your front ski more this gives a positive edge, but as the snow becomes less consolidated your skis need to be evenly weighted, so they act as a platform. This platform helps keep you up in the snow pack and gives you something to jump off of into the next turn. I often get people to concentrate on weighting their back ski when skiing in deep powder. This helps give them a feel for even weighting the skis and gives them more control over their back ski.

In the end, all it takes to be able to ski well in the different conditions possible in the backcountry is time skiing the different conditions in the backcountry. My friends tell me that you have to ask a thousand times before you stop falling; I have discovered that this is indeed true and through extensive research it seems that it's a thousand times on each type of snow encountered before I can say I have mastered it. But that's just the name of the game in the backcountry so don't be afraid to give it a try.

THE FINE ART OF FALLING

Falling is indeed a fine art and, as I always tell beginners, the surest way to stop. It is much safer to have a controlled fall then it is to ski wildly and take a digger in which you have no control of where or how you land. The best way to fall is in a sitting position off to one side. This way you land where we humans have the most padding. It is also the easiest fall to get up from. So when you find yourself rockeering down a slope without any control, or you miss that crucial turn in the trees, just sit back and relax. When you stand back up you can pull it back together again instead of having your friends pull you out.

To get back up after a fall in deep powder, take your poles off and then lay them in an X flat in the snow. Pushing down on the middle of the X keeps your arms from diving into the snow. If your skis happen to be uphill, roll over so they are downhill and across the fall line before trying to get up.

SKIING WITH A PACK AND SLED

Oh yeah, eventually the goal is to get out in the backcountry for a few days at a time, which means carrying a pack. Some people may also want to pull a sled, depending on the length and type of trip. There are a few tricks here. One is to go light. The lighter the load the more comfortable it is to carry and the easier it is to ski.

Skiing with a pack isn't all that different from skiing without, except that the weight will change your center of balance and cause the skis to sink deeper into the snow. With time and practice you will get used to this and all less often, but it takes awhile. The challenge of falling with a pack on is getting back up, especially from a face plant. It might be best to take your pack off and then get back on your feet.

A sled is a different story. The advantages of sleds are that they take the weight off your back. This makes skiing long distances over relatively flat ground and low angle slopes more enjoyable. On steeper slopes however, the sleds can often develop a life of their own and this alien life form is not entirely human-friendly. Some people know will swear that sleds know judo.
When skiing uphill with a sled you will find that it wants to pull you back down the hill. Therefore, you can't climb as steeply as you can unencumbered. If I am looking at a day of hill climbing, I will either use very sticky wax or skins. Sleds make witchbacking or sidehilling more difficult. Often the sled will jump out of the track created by your skis. This leads to the inconvenience of the skis hanging down hill and off of your side as you try to break trail across the fall line. This discomfort is further enhanced by the tree that the sled will then try to embrace, leaving you wondering why you even bothered to bring the beast along. The solution to this problem is to create a wider track for the sled to travel in. Break the trail a second time with the uphill ski outside of the previous track to create a good sled trail.

Some sled and harness designs let you steer the sled with your hips. With these types of sleds, turn your hips out toward the fall line to get the sled to steer in toward the hill, lessening the chance that it will jump out of the track. Also when maneuvering around trees or rocks, rotate your hips toward the obstacle as you turn around it to make your sled follow in your ski track.

Doing a kickturn on a hill with a sled is perhaps one of the least pleasant experiences you can have. Because of the sled's position behind you it is impossible to do a downhill kickturn. Therefore the uphill kickturn becomes the only option. With sleds that have rigid poles this kickturn is an exercise in yogic contorsionism as well. About halfway through this turn is when the sled usually decides to jump the track and start back down the hill, taking you with it. If you manage to survive the turn without plummeting down the hill, the next challenge will be to get the sled back in the track behind you. Like a big semi-truck trailer, the sled follows a tighter radius turn than you and will come out of the turn downhill of the track. I try to climb above the track a little to persuade it back into place. This is no easy exercise.

The best advice I have ever heard about skiing downhill with a sled is to always ski faster than the sled. This way you can avoid the troubling scenario of having the sled pass you. Since the sled is usually connected somewhere behind you this invariably leads to the sled taking you down. Some people recommend slow wide turns as you travel down the slope to keep the sled under control. Others advise a more direct route with lots of quick short turns to stay in control. In the end it depends on your style of skiing, how good you are and the snow conditions. There may be times when conditions call for a long downward traverse followed by a kickturn followed by another...
traverse. Sometimes it might be better to walk down. Other times, as in wide open unobstructed bowls with a good runout, it might be appropriate to let the sled take its own line while you ski down unencumbered.

If all this makes you wonder why in the world you would ever want to go skiing with a sled, then just think about how a pack that weighs 100 pounds feels. Sleds are great for longer trips or for keeping your pack light on shorter trips. Once you learn a few tricks for handling them I think you will find it hard to go camping in the winter without one.

Route finding with a sled is an art that takes time and experience to develop. The most important things to keep in mind are to look for the mellowest terrain, avoid areas with thick vegetation and avoid sidehilling and kick turns like the plague—or at least whenever possible. Look for those places where you can turn around by making wide step turns.

**WAXES AND SKINS**

Wax and skins are two devices we can use on our skis to give us the kick or stick we need to travel uphill or over flat ground. There are also skis that come with a patterned design on the bottom (crows or fishscales) that allow the ski to glide forward but offer resistance to it moving backwards. These waxless skis can be used with skins for steeper climbing and are popular in some places. They would be very useful in areas where the snow is warm or temperatures change dramatically. But they tend to be slow and hum on the downhills and aren't necessary in colder climates.

My experience with waxes are all pretty utilitarian. The way I look at it there are two basic ways of waxing: the hard-core racing way—with millions of different waxes and special techniques for applying them—and the dirtbag way. I am in the latter camp.

**WAXING FOR DIRTBAGS**

There are basically two types of waxes: glide wax and kick wax. Glide wax is what you put on your skis to go fast. Any book on ski tuning will talk about waxing the skis with this stuff. I pretty much hot wax and tune my skis at the end of each season and then scrape off the excess wax in the parking lot moments before leaving to do a run at the start of the next season. If I am having a conscientious year, I will also tune and wax my skis a few times during the season.

Kick wax is what I really want to talk about. This is the stuff that we can put on our skis to kick and glide with. A kick wax, in its most basic form, is a mix of paraffin and resin. The more paraffin the harder the wax and the colder the snow it should be used for. The more resin in a wax has softer and stickier it will be. Softer wax is meant to be used on warmer older snow.

This works because cold snow can be considered as very sharp (the snow crystals are well defined and pointy), therefore, it will stick into a hard wax when the ski is depressed into the snow. However, the wax is hard enough that the crystals only stick somewhat into the wax, then when the ski is unweighted the crystals become instack and the ski can glide forward. If you use a soft wax for cold snow, the snow crystals penetrate too far and the crystals don't break off and you get snow sticking to the skis, which doesn't allow you to glide. With warmer snow the crystals are not as sharp and won't penetrate a hard wax. Thus, if you get no stick and no kick, you need to use a softer wax.

There are probably about 30 different types of kick waxes. They are color coded for their use on different temperatures of snow (see illustration). The warmer colors such as red and yellow are used on warmer snow. For really cold snow use green. Blue is a little warmer or softer than green. To make things even more complicated and to get you to spend more money, there are also special and extra colors. For example, my two favorite waxes happen to be Special Purple and Extra Blue. A special
color indicates that it is for slightly colder snow. So special purple would be slightly colder and harder than purple. An extra by the same token is slightly softer and warmer than its corresponding color. Think of it this way, a special wax gives you that special glide while an extra gives you that extra kick or extra stick.

Klister are a special, very sticky, form of wax for use with really old or warm snow that the harder waxes don’t stick to well. To be honest, I must admit ignorance to the use of klister having only used it once. It was not an enjoyable experience for me, and I soon found that my hairs and skin were sticking to everything. Since then a friend of mine has mentioned that cleaning is easier if you put duct tape on the bottom of the skis and apply the distere over it. All you have to do is peel the tape off.

Now the peanut-butter-and-jelly theory of waxing says that you should never put a hard wax over a soft wax. Just like you would never put the jelly on a piece of bread and then try to smear peanut butter over it. You should avoid putting on a soft wax thinking that you can easily put a harder wax on top of it. So if you are planning on experimenting with different waxes to see what will stick then err to the harder wax first. If that doesn’t provide enough stick then put on the softer wax. That way you won’t wind up with snow stuck on the bottom of your skins and a glop of wax to scrape off.

Now really hard-core wax geeks will measure the temperature of the snow to figure out what temperature wax to put on their skins. So if you are starting to get the idea that waxing can be a complicated affair, you’re right. But we can leave all the complicated stuff to the racers and other avid fans of classic stride. For our purposes we can make do with the dirtbag approach. One way to go is to use one of the two wax systems that are out on the market. In general these systems have one of wax for cold dry snow and one for warm wet snow. So all you have to do is figure out which type of snow is on the ground and go from there otherwise experiment with the different colored waxes to see which one gives you the stick you need, without being too sticky.

Where I tend to ski—in Wyoming and Idaho—I have found that Special Purple or Extra Blue tend to work just great in a variety of conditions so that’s pretty much all I use. When things warm up in the spring, I switch to a wet snow wax. If things get too warm that wax no longer works, I’ll just start skinning up because klister is just too messy for my taste.

Applying wax to your ski is another one of those touchy areas. The downhill purists tend to always skin and would never be caught dealing with any kick wax on the bottom of their skins. However, the flat-track crowd are usually armed with such an array of waxes, corks (used for smoothing out the wax and keeping it bound to the ski) and methods of applications that you could write a book about it. I tend to think in terms of what will get me to the good skiing the fastest, so I enjoy using wax to quickly get into some of the back bowls because it lets me glide and ski down the smaller hills that the purists, with their skins on, will be shuffling down. At the same time, being a dirt bag, I don’t like to bother with all those fancy techniques for waxing.

I tend to apply wax from about 10 inches in front of my binding to a few inches behind the heel of my boot. This is called the wax pocket. If I will be pulling a sled, I will make it longer. My method of applying wax is to clog the arteries of some Nordic skiers, but it works fine for me. I just take the can of wax and like a four-year-old with a crayon, rub it on the underside of my ski until it is all colored in. I used to then rub it or "cork it" in with my hand but lately I have stopped doing this out of laziness. Corking heats the wax up and helps it stick to the bottom of the ski longer. Experiment with a number of ways and waxes to come up with a system that you like. The biggest mistake I see beginning waxes make is not using enough wax. So if you find that your skis are slipping too much, try adding more wax or making a longer wax pocket. If this doesn’t work then go to a warmer wax.

Now sometimes when I get to the top of a slope that I want to go down, I find I barely have any glide. In this case, either my ski partners are trying to restrain me so that they can get first tracks or my skis have clogged up. The snow is sticking to the wax and won’t come off easily. This common scenario is easy dealt with, however. The first thing I usually try to do is to stamp my foot down in a back and forth gliding motion to try and break the snow off. If this doesn’t work, then I will scrape the bottom of my ski across my other ski. This works for work, try skiing across the top of someone else’s ski to scrape off the snow. Clear this with the person beforehand, though, as some people are mighty picky about their skis tops. If you are still icing up, then you have goofed too much wax on for conditions, used too soft a wax or the snow temperature has changed. Now you will need to get out your handy-dandy scraper and scrape the wax off. With a metal scraper, be careful to not scrape of the Ptex base material on the bottom of your skis. A plastic one avoids this problem but takes longer. If you forget the scraper, another ski edge will work in a pinch, but once again be careful not to damage the bases.
Some people like to scrape their wax off before they do a run anyway, but I find that if my wax is tight I don't even notice it. As mywax ages on the bottom of my ski, I find that it tends to work better and better in a variety of conditions. Therefore, I don't tend to do a lot of scraping if I can help it nor do I add new wax to my skis very often.

**SKINS**

For people who abhor the idea of kick wax on the bottom of their skis, or for climbing those really steep long hills, skins are a mandatory part of a backcountry skier's quiver. Skins will allow you to climb virtually straight up most slopes or at least take a much steeper line then would be possible with wax. They will vastly increase your efficiency on long hill climbs and are worth their weight in gold. However skins do not glide across the snow like a wax, so they are less efficient for the flatter approaches. See page 24 for a description of the different types of skins.

There is a definite crowd of skiers who would never let even a smidgen of kick wax touch their skis bases. They argue that wax doesn't work, slows them down too much on downhill runs and is unnecessary now that skins exist. This limited view comes from a lack of experience is using kick wax, I believe. Although sometimes I may be too much of a wax geek, I do believe there is a good compromise between waxing and skinning. A truly versatile backcountry skier will use a wax on those long flat approaches to maximize their glide, then make the switch to skins for yo-yoing the back bowls and getting in the maximum amount of downhill runs before making the long wax trip back out.

Another argument against putting wax on skis is that it is a pain to scrape off and gum's up the glue on the skins if you don't scrape it. I, simple way to solve this is just not worry about it. My friend Mark convinced me long ago that it isn't necessary to clean off the buses. He just slaps the skins on over the wax and lets them gum up. It doesn't decrease the skis performance at all or the frequency with which he replaces them. For others, the pain of scraping is out weighted by the effort saved waxing in the first place.

**FLAT TRACK AND UPHILL TECHNIQUE**

In the backcountry, we need to be able to move around efficiently or we just waste energy. Part of our efficiency comes in the way we travel. Skiing in the backcountry is not all about
going downhill; it also involves going uphill and moving across flat terrain. With the heavier gear we use for downhill skiing we shouldn’t expect to look like those classic Nordic stride racers, especially if we are skiing with a heavy pack, but neither do we need to slog along like a snowshoer. Skis are wonderful that magical ability to glide across the snow surface makes skiing an amazingly fun and efficient way to travel.

**KICK AND GLIDE**

We probably ought to call this “the shuffle” since realistically this is more or less what you will be doing. However adding some kick and glide to your travel at times will definitely get you moving a little faster. Remember when shifting your weight from one ski to another shift all your weight not just part of it. When going uphill you should shorten your stride and really punch down with your heel to get maximum kick. The biggest mistake people make when trying to climb hills is leaning too far forward. This puts your weight over the front of the skis instead of the middle, where you want it. So really think about standing up ramrod straight and taking short steps with your heels punching down into the snow. Use your poles but don’t rely on them to push you up the hill.

**CLASSIC KICK AND GLIDE**

Transfer all your weight from your back to your foot as you push off each ski. Opposite arm reaches forward with the opposing foot, just like you naturally do walking.

Get full power and extension from each kick. Arms out reaching down the track.

**DON’T EXPECT TO DO MUCH MORE THAN HUMP THE MONSTER LOAD!**
DOUBLE-POLING

This technique works well if you have me speed or a glide on a downhill. An forward and plant both poles in front of you.

And at the waist and push off the poles through the arms and abdominals for the best power.

DOUBLE-POLE KICK and GLIDE

Another technique for increasing the amount of speed and glide on the flats or slight downhill. Reach forward with both poles and as you kick forward onto your other ski do a double pole plant. Once again your power and endurance here is enhanced by bringing the abdomina's into play.

TURNING

Kick turns are what most people think about here. The biggest mistake I see in people doing a kick-turn is not keeping their skis perpendicular to the fall line. This invariably leads to one of the ski slipping out from underneath them. Other methods of turning on flat ground involve any number of techniques your ski up and put it back down (in a different orientation) combinations.

THE ALL IMPORTANT KICK TURN:

1. First, you'd need to be behind you or you'd kick it.
2. Lift the ski and swing it around with one hand (and power) movement.
3. Next, bring the other pole around, but plant it a bit off to one side.
4. Now, bring the hand ski around, but don't hit that pole!
5. Finally, re-position it, and get done.

ROLL YOUR SHOULDERS FORWARD!

HERRINGBONE

The important thing in the herringbone is to get those edges into the snow. Otherwise, you may just find yourself sliding back down. This technique is mostly useful for climbing short packed slopes of moderate steepness and is very hard to pull off in deep powder.
SIDE STEPPING

Side stepping is a much easier way to go up short steep sections of trail. Although it may seem impossible to break trail up a hill in deep powder it can be done. You just need some persistence. And remember it will be easier for those behind to follow. Pay attention to your edges and keep the skis perpendicular to the fall line.

SIDEHILLING

This is the most useful technique for climbing those long hills or short hills where your direction is not limited by the terrain. I think of sidehilling or traversing as a combination of forward moving side steps that can be combined with kick turns at the end of a traverse (see switchbacks, page 58). With skins on or by using a low angled track you can avoid side stepping and break or follow the trail using just a short ended stride.

BREAKING TRAIL

There comes a time when we've all got to break trail in the backcountry. For some, this is a daunting task they would like to see end as soon as possible. Others find it an enjoyable and challenging part of being in the backcountry. I personally enjoy being in the front, finding my way through the untracked snow, picking the route through the trees and up the hills and breaking the trail for those behind. Think of it as the freedom from being stuck in the rut. So give it a try, because I believe once you get the hang of it you will find it enjoyable.

Some hints about breaking trail: On hard snow or when the new snow depth is so shallow that you stay close to the surface of the snow, it is not much extra work breaking trail. This is a good time to get up front and practice route finding. Once the snow starts getting deeper and/or heavier, the trial breaking becomes harder. You need to free your ski from under the snow with each step to avoid getting bogged down. Kick and pull your ski up and back until it breaks free. Leaning back as you do this will also add your body weight to the process of levering the ski tip free.

In deep snow conditions it is nice to have a relay. The relay gives the front person a chance to rest and speeds up the overall process of breaking trail because the person breaking trail can throw more energy into it when he or she knows that he or she will get some relief. The way relays work is that the front person breaks until he or she feels him- or herself slowing down or getting too hot. The front person then steps off the trail and rejoins at the back of the line. The next person takes over and the process is repeated. This way everyone cycles through and gets a chance to break trail. Another approach that works well when carrying heavy packs, the group is big and the trail-
breaking hard is to have a couple people drop packs and break for 15 to 30 minutes. They then ski back to their packs and some others take over the trail-breaking. This way everyone takes a turn at breaking trail and everyone gets a break. The trail-breaking goes faster because the breakers are unencumbered, and it’s easy to catch up with a well-packed trail.

**SWITCHBACKS**

Breaking trail up steeper hills often requires the use of switchbacks, especially if you are using wax. I like to wax if the hills are short but will put in a skin track if it promises to be a long climb. Typically when people do a skin track, they try to avoid kick turns because they are slower than just making a smooth round turn while stepping your skis forward. Also, if you are pulling a sled it is easier to do an uphill step turn than a kick turn.

There are two ways of doing kick turns on a hill, uphill and downhill. The advantage to turning uphill is that you don’t lose any elevation executing the turn and it is faster once you get the hang of it. However, it is easier to get your skis hang up in the snow in front of you, and if you happen to fall over during the turn, Murphy’s law says that you will fall backwards down the hill. A downhill kick turn is definitely the way to go on a steep hill and if you are carrying a heavy pack, it is impossible with a sled.

One last thing on breaking trail is you should always break to your weakest group member in terms of skins, wax or ability. Otherwise the person winds up having to break his or her own trail. A waste of effort on both parts.

---

**KEEP MEALS WARM!**

A PLASTIC BOWL FOR EATING, INSULATED WITH SOME ENOSILITE FOAM WRAPPED WITH DUCT TAPE!

---

**CAMPING IN THE SNOW**

If you want to go camping at a time when the hordes of people and bugs are at their absolute minimum, winter is the time to go. Of course, this is not the only advantage. It is also a wonderful time to be out. Travel over the snow is easy, elaborate camps can be built with little impact on the land and the beauty of being out on a clear moonlight night can’t be beat. All this, plus the fact that by going just a few miles into the mountains, you’ll discover gigantic areas of untracked snow waiting for you to ski.

**SNOW KITCHENS**

One of the best things about winter camping is what you can do with your shovel, some effort and vision. You can build very comfortable camps out of snow. In the following chapter,